

STATE OF TENNESSEE DEPARTMENT OF HEALTH **ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Geoff Klein

TDEC-DWS

200 East Race St Knoxville, TN 37763

Lab ID: N00004627 Nashville Central Laboratory

Sampling Agency: TDEC: Division of Water Supply

Billing Code:

327.39-12

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

r: N00004627001

Project Name:

Sample Description:

ROCKWOOD WTP

Sampler Project Name:

Project Site No.:

roject Site No.:

Station No.:

Date/Time Collected:

06/08/2009 09:20

Sampler's Name:

BRANDY LONG

County: Sample Matrix:

ROANE - 73

EFO:

Water

FINISH

Sampling Agency:

Knoxville

Billing Code: Send Report To: TDEC-DWS 327.39-12

Send Report To: Agency Invoiced: TDEC-DWS
TDEC-DWS

Priority Date:

Date/Time Received:

06/08/2009 11:30

Received By:

P Singh

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature: Dissolved Oxygen:

Other:

Flow:

CFS

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	68	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	56	mg/L	0.7	1	P Leathers	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004627002

Project Name:

Sample Description:

ROCKWOOD WTP

Sampler Project Name:

Project Site No.:

RAW

Station No.:

Date/Time Collected:

06/08/2009 09:25 **BRANDY LONG**

Sampler's Name: County:

ROANE - 73

Sample Matrix:

EFO:

Water Knoxville

Sampling Agency:

TDEC-DWS

Billing Code: Send Report To: 327.39-12 TDEC-DWS

Agency Invoiced:

TDEC-DWS

Priority Date:

Date/Time Received:

06/08/2009 11:30

Received By:

P Singh

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature:

Dissolved Oxygen:

Other: Flow:

CFS

TEST: Alkalinity, Total	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	75	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	55	mg/L	0.7	1	P Leathers	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004627003

Project Name:

Sample Description:

KINGSTON WTP

Sampler Project Name:

Project Site No.:

FINISH

Station No.:

Date/Time Collected:

06/08/2009 09:45 **BRANDY LONG**

Sampler's Name: County:

ROANE - 73

Sample Matrix:

EFO:

Water Knoxville

Sampling Agency:

TDEC-DWS

Billing Code: Send Report To: 327.39-12 **TDEC-DWS TDEC-DWS**

Agency Invoiced: **Priority Date:**

Date/Time Received:

06/08/2009 11:30

Received By:

P Singh

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature:

Dissolved Oxygen:

Other: Flow:

CFS

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Total Alkalinity	62	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	MET					
ANALYTE	RESULT ·	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	48	mg/L	0.7	1	P Leathers	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004627004

Project Name:

Sample Description:

KINGSTON WTP

Sampler Project Name:

Project Site No.:

RAW

Station No.:

Date/Time Collected:

06/08/2009 09:50 **BRANDY LONG**

Sampler's Name: County:

ROANE - 73

Sample Matrix:

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-DWS 327.39-12 **TDEC-DWS**

Send Report To: Agency Invoiced:

TDEC-DWS

Priority Date:

Date/Time Received:

06/08/2009 11:30

Received By:

P Singh

TEST: Alkalinity, Total ANALYTE	ME.					
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	63	mg/L	3.8	10	M Chen	6/9/2009

Field Determinations

Chlorine, residual:

Dissolved Oxygen:

CFS

Conductivity:

Temperature:

pH:

Other:

Flow:

TEST: Hardness, Calcium	ME		· · · · · · · · · · · · · · · · · · ·			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	48	mg/L	0.7	1	P Leathers	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit



STATE OF TENNESSEE DEPARTMENT OF HEALTH ENVIRONMENTAL LABORATORIES

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TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Geoff Klein

TDEC-DWS 200 East Race St Knoxville, TN 37763 Lab ID: N00004627 Nashville Central Laboratory

Sampling Agency: TDEC: Division of Water Supply

Billing Code: 327.39-12

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

N00004627001

Project Name:

Sample Description:

ROCKWOOD WTP

Sampler Project Name:

Project Site No.:

FINISH

Station No.:

Date/Time Collected: Sampler's Name:

06/08/2009 09:20 **BRANDY LONG**

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-DWS 327.39-12

Send Report To: Agency Invoiced:

TDEC-DWS TDEC-DWS

Priority Date:

Date/Time Received:

06/08/2009

11:30

Received By:

P Singh -

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature: **Dissolved Oxygen:**

Other: Flow:

CFS

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	06/09/2009				S Ufegbu	6/9/2009	

TEST: ICP-MS	ME	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	μg/L	0.93	5	A Wilson	6/10/2009
Barium	28	μg/L	2.5	5	A Wilson	6/10/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/10/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/10/2009
Chromium	U	μg/L	2.0	5	A Wilson	6/10/2009
Cobalt	0.14J	μg/L	0.04	1	A Wilson	6/10/2009
Lead	U	μg/L	0.10	1	A Wilson	6/10/2009
Manganese	0.68J	μg/L	0.42	1	A Wilson	6/10/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/10/2009
Thallium	1.2	μg/L	0.03	1	A Wilson	6/10/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/10/2009

TEST: Mercury	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004627002

Project Name:

Sample Description: **ROCKWOOD WTP**

Sampler Project Name:

Project Site No.:

Sampler's Name:

RAW

Station No.:

Date/Time Collected:

06/08/2009 09:25 **BRANDY LONG**

County:

ROANE - 73

Sample Matrix:

EFO:

Water

Sampling Agency: Billing Code:

Knoxville TDEC-DWS 327.39-12

Send Report To:

TDEC-DWS

Agency Invoiced: **Priority Date:**

TDEC-DWS

Date/Time Received:

06/08/2009 11:30

Received By:

P Singh

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature: **Dissolved Oxygen:**

Other:

Flow:

CFS

TEST: Digestion Metals	MET			F.A		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/09/2009		· · · · · · · · · · · · · · · · · · ·		S Ufegbu	6/8/2009

TEST: ICP-MS	ME.	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Arsenic	U	μg/L	0.93	5	A Wilson	6/10/2009
Barium	29	μg/L	2.5	5	A Wilson	6/10/2009
Beryllium	U	μg/L	0.11	1	A Wilson	
Cadmium	U	μg/L	0.41	1	A Wilson	6/10/2009
Chromium	U	µg/L	2.0	5	A Wilson	6/10/2009
Cobalt	0.11J	μg/L	0.04	1	A Wilson	6/10/2009
Lead	0.15J	μg/L	0.10	1		6/10/2009
Manganese	9.2	μg/L	0.42	1	A Wilson	6/10/2009
Selenium	U	μg/L	1.3	 	A Wilson	6/10/2009
Thallium	0.32J			5	A Wilson	6/10/2009
Vanadium	U	μg/L	0.03	1	A Wilson	6/10/2009
		μg/L	3.4	5	A Wilson	6/10/2009

TEST: Mercury	MET	THOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004627003

Project Name:

Sample Description:

KINGSTON WTP

Sampler Project Name:

Project Site No.:

FINISH

Station No.:

Date/Time Collected:

Sampler's Name:

06/08/2009 09:45 **BRANDY LONG**

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-DWS

Billing Code: Send Report To: 327.39-12 TDEC-DWS TDEC-DWS

Agency Invoiced: **Priority Date:**

Date/Time Received:

06/08/2009 11:30

Received By:

P Singh

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature: **Dissolved Oxygen:**

Other: Flow:

CFS

TEST: Digestion Metals	MET	HOD: EPA 20	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/09/2009				S Ufegbu	6/9/2009

TEST: ICP-MS	ME.	ΓHOD: EPA 20	0.8	·		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	μg/L	0.93	5	A Wilson	6/10/2009
Barium	24	μg/L	2.5	5	A Wilson	6/10/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/10/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/10/2009
Chromium	U	μg/L	2.0	5	A Wilson	6/10/2009
Cobalt	0.072J	μg/L	0.04	1	A Wilson	6/10/2009
Lead	0.10J	μg/L	0.10	1	A Wilson	6/10/2009
Manganese	0.45J	μg/L	0.42	1	A Wilson	6/10/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/10/2009
Thallium	0.19J	μg/L	0.03	['] 1	A Wilson	6/10/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/10/2009

TEST: Mercury	ME ⁻					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004627004

Project Name:

Sample Description:

KINGSTON WTP

Sampler Project Name:

Project Site No.:

RAW

Station No.:

Date/Time Collected: Sampler's Name:

06/08/2009 09:50 BRANDY LONG

County:

ROANE - 73

Sample Matrix:

ROANE -

EFO: Sampling Agency:

Knoxville

Billing Code: Send Report To: TDEC-DWS 327.39-12 TDEC-DWS

TDEC-DWS

Agency Invoiced: Priority Date:

Date/Time Received:

06/08/2009 11:30

Received By:

P Singh

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature: Dissolved Oxygen:

Other: Flow:

CFS

TEST: Digestion Metals	MET					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/09/2009				S Ufegbu	6/9/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	μg/L	0.93	5	A Wilson	6/10/2009
Barium	26	μg/L	2.5	5	A Wilson	
Beryllium	U	μg/L	0.11	1	A Wilson	6/10/2009
Cadmium	U	μg/L	0.41	1		6/10/2009
Chromium	Ü	μg/L	2.0	5	A Wilson	6/10/2009
Cobalt	0.15J	μg/L	0.04	J 4	A Wilson	6/10/2009
Lead	0.27J	μg/L	0.04	1	A Wilson	6/10/2009
Manganese	29			7	A Wilson	6/10/2009
Selenium	U	μg/L	0.42	1	A Wilson	6/10/2009
Thallium	_	μg/Ļ	1.3	5	A Wilson	6/10/2009
• • • • • • • • • • • • • • • • • • • •	0.13J	μg/L	0.03	1	A Wilson	6/10/2009
Vanadium	<u> </u>	μg/L	3.4	5	A Wilson	6/10/2009

TEST: Mercury	ME-	···				
ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit